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(FILE 'HOME' ENTERED AT 15:43:37 ON 20 SEP 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 15:43:56 ON 20
SEP 2006

L1	502 S COBALAMIN? AND APO?
L2	180 S L1 AND HOLO?
L3	0 S L1 AND HAPTOCIRRIN?
L4	12 S L2 AND HAPTOCORRIN?
L5	5 DUPLICATE REMOVE L4 (7 DUPLICATES REMOVED)
L6	847 S (COBALAMIN BIND?)
L7	41 S L6 AND REVIEW?
L8	33 DUPLICATE REMOVE L7 (8 DUPLICATES REMOVED)
L9	25 S L8 AND PD<1999
L10	341 S TRANSCOBALAMIN? AND HAPTOCORRIN?
L11	85 S L2 AND TRANSCOBALAMIN?
L12	38 DUPLICATE REMOVE L11 (47 DUPLICATES REMOVED)
L13	38 S L12 NOT L9

d his

(FILE 'HOME' ENTERED AT 15:43:37 ON 20 SEP 2006)

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L11	85 S L2 AND TRANSCOBALAMIN?
L12	38 DUPLICATE REMOVE L11 (47 DUPLICATES REMOVED)
L13	38 S L12 NOT L9

AN 1998:320642 CAPLUS
DN 129:119116
ED Entered STN: 29 May 1998
TI Cobalamin binding proteins
AU Nexø, Ebba
CS Department of Clinical Biochemistry, KH, Aarhus University Hospital,
Aarhus, DK 8000, Den.
SO Vitamin B12 and B12-Proteins, Lectures presented at the European Symposium
on Vitamin B12 and B12-Proteins, 4th, Innsbruck, Sept., 1996 (1998
) , Meeting Date 1996, 459-475. Editor(s): Kraeutler, Bernhard; Arigoni,
Duilio; Golding, Bernard T. Publisher: Wiley-VCH Verlag GmbH, Weinheim,
Germany.
CODEN: 66BKAH
DT Conference; General Review
LA English
CC 6-0 (General Biochemistry)
AB A review with 100 refs. Intrinsic factor, transcobalamin, and
haptocorrin are the 3 cobalamin-binding proteins
involved in the uptake and transport of cobalamins in mammals. Intrinsic
factor transports cobalamins from the food into the intestinal cells,
while transcobalamin carries cobalamins from the circulation and into most
cells of the body. The function of haptocorrin is still debated.
Possibly it is involved in removing cobalamin-like substances from the
circulation. The 3 proteins have been purified from several spp. The
proteins consist of .apprx.450 amino acids and show a considerable
similarity in gene structure. Intrinsic factor and haptocorrin are
glycosylated. Lack of intrinsic factor is a relatively common condition
resulting in cobalamin deficiency. Lack of transcobalamin is a rare
inborn disorder, also resulting in cobalamin deficiency. Lack of
haptocorrin is apparently not associated with clin. symptoms.
ST review cobalamin binding protein
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cobalamin-binding; cobalamin-
binding proteins)
IT 13408-78-1, Cobalamin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cobalamin-binding proteins)
RE.CNT 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen, R; FASEB J 1993, V7, P1344 CAPLUS
(2) Allen, R; J Biol Chem 1972, V247, P7702 CAPLUS
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ANSWER 6 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:320642 CAPLUS

DN 129:119116

ED Entered STN: 29 May 1998

TI Cobalamin binding proteins

AU Nexø, Ebba

CS Department of Clinical Biochemistry, KH, Aarhus University Hospital, Aarhus, DK 8000, Den.

SO Vitamin B12 and B12-Proteins, Lectures presented at the European Symposium on Vitamin B12 and B12-Proteins, 4th, Innsbruck, Sept., 1996 (1998), Meeting Date 1996, 459-475. Editor(s): Kraeutler, Bernhard; Arigoni, Duilio; Golding, Bernard T. Publisher: Wiley-VCH Verlag GmbH, Weinheim, Germany.

CODEN: 66BKAH

DT Conference; General Review

LA English

CC 6-0 (General Biochemistry)

AB A review with 100 refs. Intrinsic factor, transcobalamin, and haptocorrin are the 3 cobalamin-binding proteins involved in the uptake and transport of cobalamins in mammals. Intrinsic factor transports cobalamins from the food into the intestinal cells, while transcobalamin carries cobalamins from the circulation and into most cells of the body. The function of haptocorrin is still debated. Possibly it is involved in removing cobalamin-like substances from the circulation. The 3 proteins have been purified from several spp. The proteins consist of .apprx.450 amino acids and show a considerable similarity in gene structure. Intrinsic factor and haptocorrin are glycosylated. Lack of intrinsic factor is a relatively common condition resulting in cobalamin deficiency. Lack of transcobalamin is a rare inborn disorder, also resulting in cobalamin deficiency. Lack of haptocorrin is apparently not associated with clin. symptoms.

ST review cobalamin binding protein

IT Proteins, specific or class

RL: BSU (Biological study, unclassified); BIOL (Biological study) (cobalamin-binding; cobalamin-binding proteins)

IT 13408-78-1, Cobalamin

RL: BSU (Biological study, unclassified); BIOL (Biological study) (cobalamin-binding proteins)

RE.CNT 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR THIS RECORD
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ANSWER 13 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:123884 CAPLUS
DN 122:126186
ED Entered STN: 08 Nov 1994
TI Cobalamin binding proteins and their receptors
AU Seetharam, B.; Alpers, D.H.
CS Div. Gastroenterol, Med. Coll. Wisconsin, Milwaukee, WI, USA
SO Intercellular and Intracellular Communication (1994), 6(Vitamin Receptors), 78-105
CODEN: IINCEH; ISSN: 0957-0799
DT Journal; General Review
LA English
CC 6-0 (General Biochemistry)
AB A review, with 137 refs.
ST review cobalamin binding protein receptor
IT Intrinsic factors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cobalamin binding proteins and their receptors)
IT Glycoproteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(R-binding, cobalamin binding proteins and their receptors)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(asialoglycoprotein, cobalamin binding proteins and their receptors)
IT Sialoglycoprotein receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(asialosialoglycoprotein, cobalamin binding proteins and their receptors)
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cobalamin-binding, cobalamin binding proteins and their receptors)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(intrinsic factor, cobalamin binding proteins and their receptors)
IT Intrinsic factors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(receptors, cobalamin binding proteins and their receptors)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(transcobalamin II, cobalamin binding proteins and their receptors)

L9 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:604038 CAPLUS
DN 115:204038
ED Entered STN: 15 Nov 1991
TI Cobalamin-binding proteins in human blood
AU Hansen, Mads
CS Dep. Med. Hematol., Gentofte Hosp., Hellerup, DK-2900, Den.
SO Cobalamin Relat. Binding Proteins Clin. Nutr. (1990), 69-79.
Editor(s): Gueant, J. L.; Nicolas, J. P. Publisher: Elsevier, Paris, Fr.

ANSWER 13 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:123884 CAPLUS
DN 122:126186
ED Entered STN: 08 Nov 1994
TI Cobalamin binding proteins and their receptors
AU Seetharam, B.; Alpers, D.H.
CS Div. Gastroenterol, Med. Coll. Wisconsin, Milwaukee, WI, USA
SO Intercellular and Intracellular Communication (1994), 6(Vitamin
Receptors), 78-105
CODEN: IINCEH; ISSN: 0957-0799
DT Journal; General Review
LA English
CC 6-0 (General Biochemistry)
AB A review, with 137 refs.
ST review cobalamin binding protein receptor
IT Intrinsic factors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(cobalamin binding proteins and their receptors)
IT Glycoproteins, specific or class
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(Biological study); PROC (Process)
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IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(asialoglycoprotein, cobalamin binding proteins and
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IT Sialoglycoprotein receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
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IT Proteins, specific or class
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(Biological study); PROC (Process)
(cobalamin-binding, cobalamin
binding proteins and their receptors)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(intrinsic factor, cobalamin binding proteins and
their receptors)
IT Intrinsic factors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(receptors, cobalamin binding proteins and their
receptors)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(transcobalamin II, cobalamin binding proteins and
their receptors)

L9 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:604038 CAPLUS
DN 115:204038
ED Entered STN: 15 Nov 1991
TI Cobalamin-binding proteins in human blood
AU Hansen, Mads
CS Dep. Med. Hematol., Gentofte Hosp., Hellerup, DK-2900, Den.
SO Cobalamin Relat. Binding Proteins Clin. Nutr. (1990), 69-79.
Editor(s): Gueant, J. L.; Nicolas, J. P. Publisher: Elsevier, Paris, Fr.

CODEN: 57ISA4

DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 14
AB A review, with 34 refs., of the physiol. and pathol. of
cobalamin-binding proteins of human blood, chiefly
transcobalamin and haptocorrin.
ST review cobalamin binding protein; disease
cobalamin binding protein review
IT Disease
(cobalamin-binding proteins of human blood in)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(R-binding, of blood, of human, physiol. and pathol. of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(cobalamin-binding, of blood of human, physiol. and
pathol. of)
IT 12774-24-2, Transcobalamin
RL: BIOL (Biological study)
(of blood, of human, physiol. and pathol. of)

CODEN: 57ISA4

DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 14
AB A review, with 34 refs., of the physiol. and pathol. of
cobalamin-binding proteins of human blood, chiefly
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cobalamin binding protein review
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IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(R-binding, of blood, of human, physiol. and pathol. of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(cobalamin-binding, of blood of human, physiol. and
pathol. of)
IT 12774-24-2, Transcobalamin
RL: BIOL (Biological study)
(of blood, of human, physiol. and pathol. of)

ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

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Editor(s): Gueant, J. L.; Nicolas, J. P. Publisher: Elsevier, Paris, Fr.
CODEN: 57ISA4
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LA English
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ST review cobalamin binding protein; disease
cobalamin binding protein review
IT Disease
(cobalamin-binding proteins of human blood in)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(R-binding, of blood, of human, physiol. and pathol. of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(cobalamin-binding, of blood of human, physiol. and
pathol. of)
IT 12774-24-2, Transcobalamin
RL: BIOL (Biological study)
(of blood, of human, physiol. and pathol. of)

ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

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 Editor(s): Gueant, J. L.; Nicolas, J. P. Publisher: Elsevier, Paris, Fr.
 CODEN: 57ISA4

DT Conference; General Review

LA English

CC 13-0 (Mammalian Biochemistry)
 Section cross-reference(s): 14

AB A review, with 34 refs., of the physiol. and pathol. of
 cobalamin-binding proteins of human blood, chiefly
 transcobalamin and haptocorrin.

ST review cobalamin binding protein; disease
 cobalamin binding protein review

IT Disease
 (cobalamin-binding proteins of human blood in)

IT Glycoproteins, specific or class
 RL: BIOL (Biological study)
 (R-binding, of blood, of human, physiol. and pathol. of)

IT Proteins, specific or class
 RL: BIOL (Biological study)
 (cobalamin-binding, of blood of human, physiol. and
 pathol. of)

IT 12774-24-2, Transcobalamin
 RL: BIOL (Biological study)
 (of blood, of human, physiol. and pathol. of)

ANSWER 17 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:405539 CAPLUS
DN 115:5539
ED Entered STN: 12 Jul 1991
TI Exocrine secretion of haptocorrin
AU Nexoe, Ebba
CS Dep. Clin. Chem., Cent. Hosp., Hilleroed, DK-3400, Den.
SO Biomed. Physiol. Vitam. B12, Proc. Int. Symp., 1st (1990),
Meeting Date 1988, 353-8. Editor(s): Linnell, John C.; Bhatt, H. Ray.
Publisher: Child. Med. Charity, London, UK.
CODEN: 57DMAT
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
AB A review, with 9 refs., describing the exocrine secretion of
haptocorrins into nasal secretion, saliva, and milk. Haptocorrins are
compared in different species and to other cobalamin-
binding proteins in the same species.
ST gland secretion haptocorrin review; transport haptocorrin
review
IT Milk
(haptocorrin of)
IT Saliva
(haptocorrin of, in humans and laboratory animals)
IT Mammary gland
Salivary gland
(haptocorrin secretion by, in humans and laboratory animals)
IT Glycoproteins, specific or class
RL: PROC (Process)
(R-binding, secretion of, by exocrine glands of humans and laboratory
animals)
IT Proteins, specific or class
RL: BIOL (Biological study)
(cobalamin-binding, haptocorrins of humans and laboratory
animals in relation to)
IT Gland
(exocrine, haptocorrin secretion by, in humans and laboratory animals)
IT Milk
(human, haptocorrin of, exocrine secretion to)
IT Gland
(nasal, haptocorrin secretion by, in humans and laboratory animals)
IT Biological transport
(secretion, of haptocorrins in humans and laboratory animals)

ANSWER 17 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:405539 CAPLUS
DN 115:5539
ED Entered STN: 12 Jul 1991
TI Exocrine secretion of haptocorrin
AU Nexoe, Ebba
CS Dep. Clin. Chem., Cent. Hosp., Hilleroed, DK-3400, Den.
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Meeting Date 1988, 353-8. Editor(s): Linnell, John C.; Bhatt, H. Ray.
Publisher: Child. Med. Charity, London, UK.
CODEN: 57DMAT
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
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haptocorrins into nasal secretion, saliva, and milk. Haptocorrins are
compared in different species and to other cobalamin-
binding proteins in the same species.
ST gland secretion haptocorrin review; transport haptocorrin
review
IT Milk
(haptocorrin of)
IT Saliva
(haptocorrin of, in humans and laboratory animals)
IT Mammary gland
Salivary gland
(haptocorrin secretion by, in humans and laboratory animals)
IT Glycoproteins, specific or class
RL: PROC (Process)
(R-binding, secretion of, by exocrine glands of humans and laboratory
animals)
IT Proteins, specific or class
RL: BIOL (Biological study)
(cobalamin-binding, haptocorrins of humans and laboratory
animals in relation to)
IT Gland
(exocrine, haptocorrin secretion by, in humans and laboratory animals)
IT Milk
(human, haptocorrin of, exocrine secretion to)
IT Gland
(nasal, haptocorrin secretion by, in humans and laboratory animals)
IT Biological transport
(secretion, of haptocorrins in humans and laboratory animals)

AN 1985:201504 CAPLUS
 DN 102:201504
 ED Entered STN: 15 Jun 1985
 TI Transport proteins of vitamin B12 (cobalamins)
 AU Pristoupilova, K.; Slavikova, V.
 CS Ustav Hematol. Krevni Transf., Prague, Czech.
 SO Casopis Lekarů Ceských (1985), 124(12), 353-6
 CODEN: CLCEAL; ISSN: 0008-7335
 DT Journal; General Review
 LA Czech
 CC 13-0 (Mammalian Biochemistry)
 AB A review with 17 refs. The distribution of vitamin B12-cobalamins in the organism is influenced by 3 types of transport proteins, intrinsic factor, transcobalamins, and cobalophilins, which have an identical primary structure of the binding center for cobalamin.
 ST cobalamin binding protein review; vitamin B12 binding protein review; intrinsic factor cobalamin review; transcobalamin cobalamin review; cobalophilin cobalamin review
 IT Intrinsic factors
 RL: BIOL (Biological study)
 (cobalamin transport by)
 IT Proteins
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (cobalamin-transporting)
 IT Proteins
 RL: BIOL (Biological study)
 (cobalophilins, cobalamin transport by)
 IT Proteins
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (vitamin B12-transporting)
 IT 12774-24-2
 RL: BIOL (Biological study)
 (cobalamin transport by)
 IT 68-19-9 13408-78-1
 RL: BIOL (Biological study)
 (protein transporting)

ANSWER 19 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:201504 CAPLUS
DN 102:201504
ED Entered STN: 15 Jun 1985
TI Transport proteins of vitamin B12 (cobalamins)
AU Pristoupilova, K.; Slavikova, V.
CS Ustav Hematol. Krevni Transf., Prague, Czech.
SO Casopis Lekaru Ceskych (1985), 124(12), 353-6
CODEN: CLCEAL; ISSN: 0008-7335
DT Journal; General Review
LA Czech
CC 13-0 (Mammalian Biochemistry)
AB A review with 17 refs. The distribution of vitamin B12-cobalamins in the organism is influenced by 3 types of transport proteins, intrinsic factor, transcobalamins, and cobalophilins, which have an identical primary structure of the binding center for cobalamin.
ST cobalamin binding protein review; vitamin B12 binding protein review; intrinsic factor cobalamin review; transcobalamin cobalamin review; cobalophilin cobalamin review
IT Intrinsic factors
RL: BIOL (Biological study)
(cobalamin transport by)
IT Proteins
RL: SPN (Synthetic preparation); PREP (Preparation)
(cobalamin-transporting)
IT Proteins
RL: BIOL (Biological study)
(cobalophilins, cobalamin transport by)
IT Proteins
RL: SPN (Synthetic preparation); PREP (Preparation)
(vitamin B12-transporting)
IT 12774-24-2
RL: BIOL (Biological study)
(cobalamin transport by)
IT 68-19-9 13408-78-1
RL: BIOL (Biological study)
(protein transporting)

ANSWER 20 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1984:569440 CAPLUS
DN 101:169440
ED Entered STN: 10 Nov 1984
TI Macromolecules in the assimilation and transport of cobalamin
AU Marcoullis, George; Rothenberg, Sheldon P.
CS Div. Hematol./Oncol., Brooklyn VA Med. Cent., Brooklyn, NY, USA
SO Contemporary Issues in Clinical Nutrition (1983), 5(Nutr.
Hematol.), 59-119
CODEN: CICNEV; ISSN: 0736-4369
DT Journal; General Review
LA English
CC 18-0 (Animal Nutrition)
AB A review with 434 refs. Cobalamin [13408-78-1] binding
proteins and receptors are discussed.
ST cobalamin binding protein transport review;
receptor cobalamin review
IT Receptors
RL: BIOL (Biological study)
(for cobalamin)
IT Biological transport
(of cobalamin, macromols. in)
IT Proteins
RL: BIOL (Biological study)
(cobalamin-binding, in transport and assimilation)
IT 13408-78-1
RL: BIOL (Biological study)
(binding proteins and receptors for, transport and metabolism in relation
to)

ANSWER 20 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1984:569440 CAPLUS
DN 101:169440
ED Entered STN: 10 Nov 1984
TI Macromolecules in the assimilation and transport of cobalamin
AU Marcoullis, George; Rothenberg, Sheldon P.
CS Div. Hematol./Oncol., Brooklyn VA Med. Cent., Brooklyn, NY, USA
SO Contemporary Issues in Clinical Nutrition (1983), 5(Nutr.
Hematol.), 59-119
CODEN: CICNEV; ISSN: 0736-4369
DT Journal; General Review
LA English
CC 18-0 (Animal Nutrition)
AB A review with 434 refs. Cobalamin [13408-78-1] binding
proteins and receptors are discussed.
ST cobalamin binding protein transport review;
receptor cobalamin review
IT Receptors
RL: BIOL (Biological study)
(for cobalamin)
IT Biological transport
(of cobalamin, macromols. in)
IT Proteins
RL: BIOL (Biological study)
(cobalamin-binding, in transport and assimilation)
IT 13408-78-1
RL: BIOL (Biological study)
(binding proteins and receptors for, transport and metabolism in relation
to)

ANSWER 21 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1983:15761 CAPLUS
DN 98:15761
ED Entered STN: 12 May 1984
TI Vitamin B12 binders (transcobalamins) in serum
AU Fernandes-Costa, Francisco; Metz, J.
CS Sch. Pathol., Univ. Witwatersrand, Johannesburg, S. Afr.
SO Critical Reviews in Clinical Laboratory Sciences (1982), 18(1),
1-30
CODEN: CRCLBH; ISSN: 0590-8191
DT Journal; General Review
LA English
CC 18-0 (Animal Nutrition)
AB A review with 222 refs. on vitamin B12 [68-19-9] binding
proteins of blood serum.
ST vitamin B12 binding protein review; serum cobalamin
binding protein review
IT Proteins
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(vitamin B12-binding, of blood serum)
IT 68-19-9
RL: BIOL (Biological study)
(proteins binding, of blood serum)

ANSWER 21 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1983:15761 CAPLUS
DN 98:15761
ED Entered STN: 12 May 1984
TI Vitamin B12 binders (transcobalamins) in serum
AU Fernandes-Costa, Francisco; Metz, J.
CS Sch. Pathol., Univ. Witwatersrand, Johannesburg, S. Afr.
SO Critical Reviews in Clinical Laboratory Sciences (1982), 18(1),
1-30
CODEN: CRCLBH; ISSN: 0590-8191
DT Journal; General Review
LA English
CC 18-0 (Animal Nutrition)
AB A review with 222 refs. on vitamin B12 [68-19-9] binding
proteins of blood serum.
ST vitamin B12 binding protein review; serum cobalamin
binding protein review
IT Proteins
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(vitamin B12-binding, of blood serum)
IT 68-19-9
RL: BIOL (Biological study)
(proteins binding, of blood serum)

ANSWER 22 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1981:582410 CAPLUS
DN 95:182410
ED Entered STN: 12 May 1984
TI Cobalamin-binding proteins of man
AU Carmel, Ralph
CS Sch. Med., Univ. South. California, Los Angeles, CA, 90033, USA
SO Contemporary Hematology/Oncology (1981), 2, 79-129
CODEN: CHONDF; ISSN: 0197-3649
DT Journal; General Review
LA English
CC 6-0 (General Biochemistry)
AB A review with many refs.
ST review cobalamin binding protein
IT Corrinoids
RL: BIOL (Biological study)
(proteins binding)
IT Proteins
RL: SPN (Synthetic preparation); PREP (Preparation)
(cobalamin-binding)

ANSWER 22 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1981:582410 CAPLUS
DN 95:182410
ED Entered STN: 12 May 1984
TI Cobalamin-binding proteins of man
AU Carmel, Ralph
CS Sch. Med., Univ. South. California, Los Angeles, CA, 90033, USA
SO Contemporary Hematology/Oncology (1981), 2, 79-129
CODEN: CHONDF; ISSN: 0197-3649
DT Journal; General Review
LA English
CC 6-0 (General Biochemistry)
AB A review with many refs.
ST review cobalamin binding protein
IT Corrinoids
RL: BIOL (Biological study)
(proteins binding)
IT Proteins
RL: SPN (Synthetic preparation); PREP (Preparation)
(cobalamin-binding)

ANSWER 24 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1978:185023 CAPLUS

DN 88:185023

ED Entered STN: 12 May 1984

TI Transcobalamin I and other human R-binders: purification, structural, spectral and physiological studies

AU Nexoe, Ebba

CS Dep. Clin. Chem., Bispebjerg Hosp., Copenhagen, Den.

SO Scandinavian Journal of Haematology (1978), 20(3), 221-36.

CODEN: SJHAAQ; ISSN: 0036-553X

DT Journal; General Review

LA English

CC 7-0 (Enzymes)

Section cross-reference(s): 13, 6

AB A review and discussion with 81 refs. Transcobalamin I and other R binders are enzymes. The purification and structural and metabolic properties of these proteins are given.

ST review transcobalamin

IT Proteins

RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(cobalamin-binding, purification and properties of)

IT 12651-27-3P

RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(purification and properties of)

ANSWER 24 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1978:185023 CAPLUS
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AU Nexoe, Ebba
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CODEN: SJHAAQ; ISSN: 0036-553X
DT Journal; General Review
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CC 7-0 (Enzymes)
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other R binders are enzymes. The purification and structural and metabolic
properties of these proteins are given.
ST review transcobalamin
IT Proteins
RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(cobalamin-binding, purification and properties of)
IT 12651-27-3P
RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(purification and properties of)

ANSWER 25 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:120199 CAPLUS

DN 82:120199

ED Entered STN: 12 May 1984

TI Serum transcobalamins

AU Olesen, Henrik

CS Dep. Clin. Chem., Bispebjerg Hosp., Copenhagen, Den.

SO Scandinavian Journal of Gastroenterology, Supplement (1974),
9(29), 13-16

CODEN: SJGSB8; ISSN: 0085-5928

DT Journal; General Review

LA English

CC 6-0 (General Biochemistry)

Section cross-reference(s): 13

AB A review with 26 refs. on the physicochem. properties of the
cobalamin-binding proteins: transcobalamins I and II,
intrinsic factor, saliva binder, and granulocyte binder, the binding
strength of these proteins, and the metabolism of cobalamin-protein complexes.

ST review cobalamin binding protein;
transcobalamin serum property review; intrinsic factor property
review; saliva cobalamin protein review; granulocyte
cobalamin protein review

IT Proteins

RL: BIOL (Biological study)
(cobalamin-binding, properties of)

IT Intrinsic factors

RL: PRP (Properties)
(properties of)

IT Corrinoids

RL: BIOL (Biological study)
(proteins binding, properties of)

IT Blood serum

(transcobalamins of, properties of)

IT 12651-27-3 12651-28-4

RL: PRP (Properties)
(properties of)

ANSWER 25 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:120199 CAPLUS

DN 82:120199

ED Entered STN: 12 May 1984

TI Serum transcobalamins

AU Olesen, Henrik

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SO Scandinavian Journal of Gastroenterology, Supplement (1974),
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CODEN: SJGSB8; ISSN: 0085-5928

DT Journal; General Review

LA English

CC 6-0 (General Biochemistry)

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transcobalamin serum property review; intrinsic factor property
review; saliva cobalamin protein review; granulocyte
cobalamin protein review

IT Proteins

RL: BIOL (Biological study)
(cobalamin-binding, properties of)

IT Intrinsic factors

RL: PRP (Properties)
(properties of)

IT Corrinoids

RL: BIOL (Biological study)
(proteins binding, properties of)

IT Blood serum

(transcobalamins of, properties of)

IT 12651-27-3 12651-28-4

RL: PRP (Properties)
(properties of)

ANSWER 36 OF 38 MEDLINE on STN
AN 2006051251 IN-PROCESS
DN PubMed ID: 16393340
TI Characterization of a monoclonal antibody with specificity for
holo-transcobalamin.
AU Orning Lars; Rian Anne; Campbell Andrew; Brady Jeff; Fedosov Sergey N;
Bramlage Birgit; Thompson Keith; Quadros Edward V
CS Axis-Shield AS, POB 206 Okern, N-0510 Oslo, Norway.. lars.orning@no.axis-
shield.com
SO Nutrition & metabolism [electronic resource], (2006) Vol. 3, pp. 3.
Electronic Publication: 2006-01-04.
Journal code: 101231644. E-ISSN: 1743-7075.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED
ED Entered STN: 27 Jan 2006
Last Updated on STN: 27 Jan 2006
AB ABSTRACT : BACKGROUND : Holotranscobalamin, cobalamin
-saturated transcobalamin, is the minor fraction of circulating
cobalamin (vitamin B12), which is available for cellular uptake
and hence is physiologically relevant. Currently, no method allows
simple, direct quantification of holotranscobalamin. We now
report on the identification and characterization of a monoclonal antibody
with a unique specificity for holotranscobalamin. METHODS : The
specificity and affinity of the monoclonal antibodies were determined
using surface plasmon resonance and recombinant transcobalamin
as well as by immobilizing the antibodies on magnetic microspheres and
using native transcobalamin in serum. The epitope of the
holotranscobalamin specific antibody was identified using phage
display and comparison to a de novo generated three-dimensional model of
transcobalamin using the program Rosetta. A direct assay for
holotrnskobalamin in the ELISA format was developed using the
specific antibody and compared to the commercial assay HoloTC
RIA. RESULTS : An antibody exhibiting >100-fold specificity for
holotranscobalamin over apotranscobalamin was
identified. The affinity but not the specificity varied inversely with
ionic strength and pH, indicating importance of electrostatic
interactions. The epitope was discontinuous and epitope mapping of the
antibody by phage display identified two similar motifs with no direct
sequence similarity to transcobalamin. A comparison of the
motifs with a de novo generated three-dimensional model of
transcobalamin identified two structures in the N-terminal part of
transcobalamin that resembled the motif. Using this antibody an
ELISA based prototype assay was developed and compared to the only
available commercial assay for measuring holotranscobalamin,
HoloTC RIA. CONCLUSION : The identified antibody possesses a
unique specificity for holotranscobalamin and can be used to
develop a direct assay for the quantification of
holotranscobalamin.

ANSWER 36 OF 38 MEDLINE on STN
AN 2006051251 IN-PROCESS
DN PubMed ID: 16393340
TI Characterization of a monoclonal antibody with specificity for
holo-transcobalamin.
AU Orning Lars; Rian Anne; Campbell Andrew; Brady Jeff; Fedosov Sergey N;
Bramlage Birgit; Thompson Keith; Quadros Edward V
CS Axis-Shield AS, POB 206 Okern, N-0510 Oslo, Norway.. lars.orning@no.axis-
shield.com
SO Nutrition & metabolism [electronic resource], (2006) Vol. 3, pp. 3.
Electronic Publication: 2006-01-04.
Journal code: 101231644. E-ISSN: 1743-7075.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED
ED Entered STN: 27 Jan 2006
Last Updated on STN: 27 Jan 2006
AB ABSTRACT : BACKGROUND : Holotranscobalamin, cobalamin
-saturated transcobalamin, is the minor fraction of circulating
cobalamin (vitamin B12), which is available for cellular uptake
and hence is physiologically relevant. Currently, no method allows
simple, direct quantification of holotranscobalamin. We now
report on the identification and characterization of a monoclonal antibody
with a unique specificity for holotranscobalamin. METHODS : The
specificity and affinity of the monoclonal antibodies were determined
using surface plasmon resonance and recombinant transcobalamin
as well as by immobilizing the antibodies on magnetic microspheres and
using native transcobalamin in serum. The epitope of the
holotranscobalamin specific antibody was identified using phage
display and comparison to a de novo generated three-dimensional model of
transcobalamin using the program Rosetta. A direct assay for
holotrnskobalamin in the ELISA format was developed using the
specific antibody and compared to the commercial assay HoloTC
RIA. RESULTS : An antibody exhibiting >100-fold specificity for
holotranscobalamin over apotranscobalamin was
identified. The affinity but not the specificity varied inversely with
ionic strength and pH, indicating importance of electrostatic
interactions. The epitope was discontinuous and epitope mapping of the
antibody by phage display identified two similar motifs with no direct
sequence similarity to transcobalamin. A comparison of the
motifs with a de novo generated three-dimensional model of
transcobalamin identified two structures in the N-terminal part of
transcobalamin that resembled the motif. Using this antibody an
ELISA based prototype assay was developed and compared to the only
available commercial assay for measuring holotranscobalamin,
HoloTC RIA. CONCLUSION : The identified antibody possesses a
unique specificity for holotranscobalamin and can be used to
develop a direct assay for the quantification of
holotranscobalamin.

ANSWER 31 OF 38 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

AN 2006056444 EMBASE

TI Characterization of a monoclonal antibody with specificity for holo-transcobalamin.

AU Orning L.; Rian A.; Campbell A.; Brady J.; Fedosov S.N.; Bramlage B.; Thompson K.; Quadros E.V.

CS L. Orning, Axis-Shield AS, POB 206 Okern, N-0510 Oslo, Norway.
lars.orning@no.axis-shield.com

SO Nutrition and Metabolism, (4 Jan 2006) Vol. 3, pp. 11p. arn. 3.
Refs: 25
ISSN: 1743-7075 E-ISSN: 1743-7075

CY United Kingdom

DT Journal; Article

FS 026 Immunology, Serology and Transplantation
027 Biophysics, Bioengineering and Medical Instrumentation
029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 3 Mar 2006
Last Updated on STN: 3 Mar 2006

AB Background: Holotranscobalamin, cobalamin-saturated transcobalamin, is the minor fraction of circulating cobalamin (vitamin B12), which is available for cellular uptake and hence is physiologically relevant. Currently, no method allows simple, direct quantification of holotranscobalamin. We now report on the identification and characterization of a monoclonal antibody with a unique specificity for holotranscobalamin. Methods: The specificity and affinity of the monoclonal antibodies were determined using surface plasmon resonance and recombinant transcobalamin as well as by immobilizing the antibodies on magnetic microspheres and using native transcobalamin in serum. The epitope of the holotranscobalamin specific antibody was identified using phage display and comparison to a de novo generated three-dimensional model of transcobalamin using the program Rosetta. A direct assay for holotranscobalamin in the ELISA format was developed using the specific antibody and compared to the commercial assay HoloTC RIA. Results: An antibody exhibiting > 100-fold specificity for holotranscobalamin over apotranscobalamin was identified. The affinity but not the specificity varied inversely with ionic strength and pH, indicating importance of electrostatic interactions. The epitope was discontinuous and epitope mapping of the antibody by phage display identified two similar motifs with no direct sequence similarity to transcobalamin. A comparison of the motifs with a de novo generated three-dimensional model of transcobalamin identified two structures in the N-terminal part of transcobalamin that resembled the motif. Using this antibody an ELISA based prototype assay was developed and compared to the only available commercial assay for measuring holotranscobalamin, HoloTC RIA. Conclusion: The identified antibody possesses a unique specificity for holotranscobalamin and can be used to develop a direct assay for the quantification of holotranscobalamin. .COPYRGHT. 2006 Orning et al; licensee BioMed Central Ltd.

CT Medical Descriptors:
antibody specificity
binding affinity
surface plasmon resonance
magnetism
phage display
enzyme linked immunosorbent assay
intermethod comparison
ionic strength
pH

ANSWER 31 OF 38 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

AN 2006056444 EMBASE

TI Characterization of a monoclonal antibody with specificity for holo-transcobalamin.

AU Orning L.; Rian A.; Campbell A.; Brady J.; Fedosov S.N.; Bramlage B.; Thompson K.; Quadros E.V.

CS L. Orning, Axis-Shield AS, POB 206 Okern, N-0510 Oslo, Norway.
lars.orning@no.axis-shield.com

SO Nutrition and Metabolism, (4 Jan 2006) Vol. 3, pp. 11p. arn. 3.
Refs: 25
ISSN: 1743-7075 E-ISSN: 1743-7075

CY United Kingdom

DT Journal; Article

FS 026 Immunology, Serology and Transplantation
027 Biophysics, Bioengineering and Medical Instrumentation
029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 3 Mar 2006
Last Updated on STN: 3 Mar 2006

AB Background: Holotranscobalamin, cobalamin-saturated transcobalamin, is the minor fraction of circulating cobalamin (vitamin B12), which is available for cellular uptake and hence is physiologically relevant. Currently, no method allows simple, direct quantification of holotranscobalamin. We now report on the identification and characterization of a monoclonal antibody with a unique specificity for holotranscobalamin. Methods: The specificity and affinity of the monoclonal antibodies were determined using surface plasmon resonance and recombinant transcobalamin as well as by immobilizing the antibodies on magnetic microspheres and using native transcobalamin in serum. The epitope of the holotranscobalamin specific antibody was identified using phage display and comparison to a de novo generated three-dimensional model of transcobalamin using the program Rosetta. A direct assay for holotranscobalamin in the ELISA format was developed using the specific antibody and compared to the commercial assay HoloTC RIA. Results: An antibody exhibiting > 100-fold specificity for holotranscobalamin over apotranscobalamin was identified. The affinity but not the specificity varied inversely with ionic strength and pH, indicating importance of electrostatic interactions. The epitope was discontinuous and epitope mapping of the antibody by phage display identified two similar motifs with no direct sequence similarity to transcobalamin. A comparison of the motifs with a de novo generated three-dimensional model of transcobalamin identified two structures in the N-terminal part of transcobalamin that resembled the motif. Using this antibody an ELISA based prototype assay was developed and compared to the only available commercial assay for measuring holotranscobalamin, HoloTC RIA. Conclusion: The identified antibody possesses a unique specificity for holotranscobalamin and can be used to develop a direct assay for the quantification of holotranscobalamin. .COPYRGHT. 2006 Orning et al; licensee BioMed Central Ltd.

CT Medical Descriptors:
antibody specificity
binding affinity
surface plasmon resonance
magnetism
phage display
enzyme linked immunosorbent assay
intermethod comparison
ionic strength
pH

electricity
epitope mapping
protein motif
sequence homology
amino terminal sequence
serum
article

Drug Descriptors:

*holotranscobalamin
*transcobalamin
*monoclonal antibody 3C4
*monoclonal antibody
immobilized antibody
microsphere
epitope
apotranscobalamin
monoclonal antibody 3 9
monoclonal antibody 3 11
monoclonal antibody TC7
monoclonal antibody 4 7
monoclonal antibody 5H2
monoclonal antibody TC4
monoclonal antibody TC2
monoclonal antibody 3C12
unclassified drug

RN (transcobalamin) 12774-24-2

CO Axis Shield (Norway)

electricity
epitope mapping
protein motif
sequence homology
amino terminal sequence
serum
article

Drug Descriptors:

*holotranscobalamin
*transcobalamin
*monoclonal antibody 3C4
*monoclonal antibody
immobilized antibody
microsphere
epitope
apotranscobalamin
monoclonal antibody 3 9
monoclonal antibody 3 11
monoclonal antibody TC7
monoclonal antibody 4 7
monoclonal antibody 5H2
monoclonal antibody TC4
monoclonal antibody TC2
monoclonal antibody 3C12
unclassified drug

RN (transcobalamin) 12774-24-2
CO Axis Shield (Norway)

ANSWER 29 OF 38 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1982:523182 CAPLUS

DN 97:123182

ED Entered STN: 12 May 1984

TI Solid-phase immunoassay for the vitamin B12-binding protein
transcobalamin II in human serum

AU Frater-Schroeder, Marijke; Kierat, Lucja; Andres, Roger Y.; Roemer, Juerg

CS Dep. Pediatr., Univ. Zurich, Zurich, CH-8032, Switz.

SO Analytical Biochemistry (1982), 124(1), 92-101

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 14

AB A solid-phase radioimmunoassay was developed for total immunoreactive
transcobalamin II (TC II). Rabbit antihuman TC II antiserum
(which recognizes both apo- and holo-TC II), was
immobilized by covalent binding to acrylamide-acrylic acid copolymer
beads. A normal mean for immunoreactive TC II in serum of healthy adults
was 1150 ng/L cobalamin equivalent. Mean holo-TC II, estimated
by subtraction of apo-TC II from total TC II, was 137 ng/L
bound cobalamin (or 12% of total TC II). Three patients with
lack of functional TC II had immunoreactive TC II levels between 22 and
39% of normal mean, which demonstrated that the solid-phase bound
antiserum recognized deficient TC II mols., whereas the same antiserum in
its soluble form did not. Eight out of 9 individuals, recognized as
heterozygous for TC II deficiency, had TC II levels below the normal
range, on the order of 50% of the normal mean. The stability of
immunoreactive TC II was strongly enhanced by the presence of an unknown
serum factor not corresponding to serum albumin.

ST serum transcobalamin II detn; radioimmunoassay
transcobalamin II

IT Antiserums

(to transcobalamin II, immobilized on polyacrylamide beads,
for solid-phase radioimmunoassay)

IT Blood analysis

(transcobalamin II determination in, of human by solid-phase
radioimmunoassay, transcobalamin II deficiency in relation
to)

IT 12651-28-4

RL: ANT (Analyte); ANST (Analytical study)

(determination of, in human blood serum by solid-phase radioimmunoassay,
transcobalamin II deficiency in relation to)

IT 9003-06-9DP, reaction products with transcobalamin II antiserum

RL: PREP (Preparation)

(preparation of, for solid-phase radioimmunoassay)

ANSWER 24 OF 38 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:203819 CAPLUS

DN 136:291296

ED Entered STN: 19 Mar 2002

TI Quantification of holo-transcobalamin, a marker of vitamin B12 deficiency

AU Nexø, Ebba; Christensen, Anna-Lisa; Hvas, Anne-Mette; Petersen, Torben E.; Fedosov, Sergey N.

CS Department of Clinical Biochemistry, Aarhus University Hospital, Aarhus C, DK-8000, Den.

SO Clinical Chemistry (Washington, DC, United States) (2002), 48(3), 561-562
CODEN: CLCHAU; ISSN: 0009-9147

PB American Association for Clinical Chemistry

DT Journal

LA English

CC 9-16 (Biochemical Methods)
Section cross-reference(s): 14

AB A new method was developed for the measurement of holo-transcobalamin (holoTC), in which magnetic beads coated with vitamin B12 (cobalamins) precipitate apo-transcobalamin and the holoTC present in the supernatant are measured by ELISA. Serum holoTC denotes the part of vitamin B12 accessible for the cells of the body and is considered to be a sensitive marker of vitamin B12 deficiency. No detectable leakage of cobalamins from the beads was observed based from the measurement of cobalamins in the supernatant of 250 µL of stock solution of the washed beads redissolved in 250 µL of buffer. Since the new assay allowed both the total TC and holoTC to be measured, the TC saturation (holoTC/total TC) was also calculated. Approx. 10% of the circulating TC was saturated with vitamin B12 with a central 95% reference interval of 0.05-0.20%, which is well below the reference interval. The developed method is expected to be useful not only to clarify the role of holoTC and TC saturation at diagnostic tests for vitamin B12 but also to study the metabolism of TC in other body fluids such as cerebrospinal fluid.

ST holo transcobalamin assay vitamin B12 deficiency
magnetic bead

IT Diagnosis
(agents; quantification of holo-transcobalamin, marker of vitamin B12 deficiency)

IT Immunoassay
(enzyme-linked immunosorbent assay; quantification of holo-transcobalamin, marker of vitamin B12 deficiency)

IT Blood analysis
Blood serum
Body fluid
Cell
Cerebrospinal fluid
Human
Metabolism, animal
(quantification of holo-transcobalamin, marker of vitamin B12 deficiency)

IT 68-19-9, Vitamin B12
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(deficiency; quantification of holo-transcobalamin, marker of vitamin B12 deficiency)

IT 12774-24-2, Transcobalamin
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(holo; quantification of holo-transcobalamin, marker of vitamin B12 deficiency)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

ANSWER 25 OF 38 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:203791 CAPLUS

DN 136:291108

ED Entered STN: 19 Mar 2002

TI Measuring and interpreting holo-transcobalamin

AU Carmel, Ralph

CS Department of Medicine, New York Methodist Hospital, Brooklyn, NY, 11215, USA

SO Clinical Chemistry (Washington, DC, United States) (2002), 48(3), 407-409
CODEN: CLCHAU; ISSN: 0009-9147

PB American Association for Clinical Chemistry

DT Journal; General Review

LA English

CC 9-0 (Biochemical Methods)

AB A review presents two new holo-transcobalamin (TC) assay methods that address many of the tech. difficulties in measuring and interpreting holo-transcobalamin. Both assays use specific anti-TC antibody rather than imprecise physicochem. methods to sep. TC from heptocorrin and other holoproteins. A study by Ulleland et al. (2002) reduced the cobalamin measurement imprecision by concentrating the final sample to eightfold so that the amount

of holo-TC cobalamin presented for assay is greater. A sep. study by Nexo et al. (2002) used the ingenious approach of reversing the order of manipulations and avoiding the cobalamin assay entirely. Nexo et al. first separated holoproteins from apoproteins using cobalamin-coated magnetic beads and then directly assayed the TC fraction of the holoproteins by ELISA.

ST review holo transcobalamin assay

IT 12774-24-2, Transcobalamin

RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(measuring and interpreting holo-transcobalamin)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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additional
references
W/cock 4/2/06*

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- (17) Wickramasinghe, S; J Clin Pathol 1996, V49, P755 MEDLINE

ANSWER 18 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on
STN

AN 1981:226520 BIOSIS

DN PREV198172011504; BA72:11504

TI COBALAMIN BINDING AND UPTAKE IN-VITRO IN THE HUMAN CENTRAL
NERVOUS SYSTEM.

AU LAZAR G S [Reprint author]; CARMEL R

CS USC SCHOOL OF MEDICINE, 2025 ZONAL AVE, LOS ANGELES, CALIF 90033, USA

SO Journal of Laboratory and Clinical Medicine, (1981) Vol. 97, No. 1, pp.
123-133.

CODEN: JLCMAK. ISSN: 0022-2143.

DT Article

FS BA

LA ENGLISH

AB The cobalamin-binding proteins of CSF and uptake of the vitamin
by homogenates of CNS tissue were examined. CSF from 24 patients had a
mean unsaturated cobalamin-binding capacity of 335 ± 282
pg/ml. The vast majority of this was TC [transcobalamin] II
(302 ± 276 pg/ml). The remainder consisted of R binder and a binder
eluting with the void volume on Sephadex G-200 gel chromatography. CSF TC
II was identical to serum TC II immunologically, functionally, in
molecular size and in electrophoretic mobility, but the levels of the 2
did not correlate. CSF TC II levels may correlate best with CSF protein
levels and tended to be higher in abnormal fluids. Unlike serum TC II,
CSF TC II tended to adhere to glass surfaces; uncorrected, this may be a
source of artifact in studying various fluids. CSF contains little
cobalamin, but most of the endogenous cobalamin was
carried by TC II instead of by R binder. CSF appears to have a much
higher total TC II:R binder ratio than does plasma. TC II enhanced
57CoB12 [radiolabeled cyanocobalamin] uptake by neonatal and adult human
brain homogenate and by mouse brain homogenate. The primary phase of TC
II-57CoB12 uptake in vitro by human brain cortex homogenate occurred
mostly within 30 min and was maximal at 22° C. Uptake was
specific, but apo- and holo-TC II appeared to have
equal affinity for the receptors. Spinal cord homogenate took up less TC
II-57CoB12 per wet wt of tissue than did brain homogenate. R binders did
not enhance cobalamin uptake, but inhibited it. Uptake of
cobalamin by CNS tissue is apparently dependent on TC II and TC II
may be even more prominent in cobalamin transport in the CSF
than it is in plasma.

CC Radiation biology - Radiation and isotope techniques 06504
Clinical biochemistry - General methods and applications 10006
Biochemistry studies - Vitamins 10063
Biochemistry studies - Proteins, peptides and amino acids 10064
Biophysics - Methods and techniques 10504
Biophysics - Molecular properties and macromolecules 10506
External effects - Temperature as a primary variable 10614
Movement 12100
Metabolism - Proteins, peptides and amino acids 13012
Metabolism - Water-soluble vitamins 13018
Blood - Blood and lymph studies 15002
Nervous system - General and methods 20501
Nervous system - Physiology and biochemistry 20504
Pediatrics - 25000
In vitro cellular and subcellular studies 32600
Immunology - General and methods 34502

IT Major Concepts

Metabolism; Nervous System (Neural Coordination)

IT Miscellaneous Descriptors

NEO NATE MOUSE SERUM BRAIN PROTEIN CYANO COBALAMIN TRANS
COBALAMIN II

ORGN Classifier

Hominidae 86215

Super Taxa

ANSWER 18 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on
STN

AN 1981:226520 BIOSIS

DN PREV198172011504; BA72:11504

TI COBALAMIN BINDING AND UPTAKE IN-VITRO IN THE HUMAN CENTRAL
NERVOUS SYSTEM.

AU LAZAR G S [Reprint author]; CARMEL R

CS USC SCHOOL OF MEDICINE, 2025 ZONAL AVE, LOS ANGELES, CALIF 90033, USA

SO Journal of Laboratory and Clinical Medicine, (1981) Vol. 97, No. 1, pp.
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CODEN: JLCMAK. ISSN: 0022-2143.

DT Article

FS BA

LA ENGLISH

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pg/ml. The vast majority of this was TC [transcobalamin] II
(302 ± 276 pg/ml). The remainder consisted of R binder and a binder
eluting with the void volume on Sephadex G-200 gel chromatography. CSF TC
II was identical to serum TC II immunologically, functionally, in
molecular size and in electrophoretic mobility, but the levels of the 2
did not correlate. CSF TC II levels may correlate best with CSF protein
levels and tended to be higher in abnormal fluids. Unlike serum TC II,
CSF TC II tended to adhere to glass surfaces; uncorrected, this may be a
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cobalamin, but most of the endogenous cobalamin was
carried by TC II instead of by R binder. CSF appears to have a much
higher total TC II:R binder ratio than does plasma. TC II enhanced
57CoB12 [radiolabeled cyanocobalamin] uptake by neonatal and adult human
brain homogenate and by mouse brain homogenate. The primary phase of TC
II-57CoB12 uptake in vitro by human brain cortex homogenate occurred
mostly within 30 min and was maximal at 22° C. Uptake was
specific, but apo- and holo-TC II appeared to have
equal affinity for the receptors. Spinal cord homogenate took up less TC
II-57CoB12 per wet wt of tissue than did brain homogenate. R binders did
not enhance cobalamin uptake, but inhibited it. Uptake of
cobalamin by CNS tissue is apparently dependent on TC II and TC II
may be even more prominent in cobalamin transport in the CSF
than it is in plasma.

CC Radiation biology - Radiation and isotope techniques 06504
Clinical biochemistry - General methods and applications 10006
Biochemistry studies - Vitamins 10063
Biochemistry studies - Proteins, peptides and amino acids 10064
Biophysics - Methods and techniques 10504
Biophysics - Molecular properties and macromolecules 10506
External effects - Temperature as a primary variable 10614
Movement 12100
Metabolism - Proteins, peptides and amino acids 13012
Metabolism - Water-soluble vitamins 13018
Blood - Blood and lymph studies 15002
Nervous system - General and methods 20501
Nervous system - Physiology and biochemistry 20504
Pediatrics - 25000
In vitro cellular and subcellular studies 32600
Immunology - General and methods 34502

IT Major Concepts

Metabolism; Nervous System (Neural Coordination)

IT Miscellaneous Descriptors

NEO NATE MOUSE SERUM BRAIN PROTEIN CYANO COBALAMIN TRANS
COBALAMIN II

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates
RN 68-19-9 (CYANOCOBALAMIN)
12651-28-4 (TRANSCOBALAMIN II)

Primates; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates
RN 68-19-9 (CYANOCOBALAMIN)
12651-28-4 (TRANSCOBALAMIN II)

ANSWER 7 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1991:165668 BIOSIS

DN PREV199191091468; BA91:91468

TI STUDIES ON THE TRANSCOBALAMIN RECEPTOR IN HOG KIDNEY.

AU YAMADA S [Reprint author]; RIITTINEN L; MAJURI R; FUKUDA M; GRASBECK R

CS MINERVA FOUNDATION INST MED RES, TUKHOLMANKATU 2, SF-00250 HELSINKI, FINL

SO Kidney International, (1991) Vol. 39, No. 2, pp. 289-294.
CODEN: KDYIA5. ISSN: 0085-2538.

DT Article

FS BA

LA ENGLISH

ED Entered STN: 1 Apr 1991
Last Updated on STN: 2 Apr 1991

AB The binding of the cobalamin-transcobalamin complex by its solubilized receptor from hog kidney membrane was studied. The receptor bound the complex in a system containing bivalent cations, and the affinity was dependent on the NaCl concentration but not on temperature. The binding of cobalamin-transcobalamin to the receptor had an association constant of approximately 4.6×10^9 liter/mol and it was saturable and highly specific as competition by other proteins was not observed. The receptor had higher affinity for the cobalamin-transcobalamin complex (holo-TC) than for transcobalamin (apo-TC). Basic amino compounds known to interfere with tubular reabsorption of proteins did not inhibit the binding. Studies on subcellular fractions supported the view that the receptor was located on the brush border membrane of the kidney.

CC Cytology - Animal 02506
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Porphyrins and bile pigments 10065
Biophysics - General 10502
Biophysics - Molecular properties and macromolecules 10506
Biophysics - Membrane phenomena 10508
Anatomy and Histology - Microscopic and ultramicroscopic anatomy 11108
Metabolism - Minerals 13010
Metabolism - Proteins, peptides and amino acids 13012
Urinary system - Anatomy 15502
Urinary system - Physiology and biochemistry 15504

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell Biology); Metabolism; Morphology; Urinary System (Chemical Coordination and Homeostasis)

IT Miscellaneous Descriptors
TUBULAR RESORPTION SODIUM CHLORIDE CONCENTRATION BRUSH BORDER LOCALE
BINDING AFFINITY ASSOCIATION CONSTANT SUBCELLULAR FRACTION

ORGN Classifier
Suidae 85740
Super Taxa
Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Artiodactyls, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Vertebrates

RN 12774-24-2 (TRANSCOBALAMIN)
7647-14-5 (SODIUM CHLORIDE)

ANSWER 7 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1991:165668 BIOSIS
DN PREV199191091468; BA91:91468
TI STUDIES ON THE TRANSCOBALAMIN RECEPTOR IN HOG KIDNEY.
AU YAMADA S [Reprint author]; RIITTINEN L; MAJURI R; FUKUDA M; GRASBECK R
CS MINERVA FOUNDATION INST MED RES, TUKHOLMANKATU 2, SF-00250 HELSINKI, FINL
SO Kidney International, (1991) Vol. 39, No. 2, pp. 289-294.
CODEN: KDYIA5. ISSN: 0085-2538.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 1 Apr 1991
Last Updated on STN: 2 Apr 1991
AB The binding of the cobalamin-transcobalamin complex by
its solubilized receptor from hog kidney membrane was studied. The
receptor bound the complex in a system containing bivalent cations, and
the affinity was dependent on the NaCl concentration but not on
temperature. The binding of cobalamin-transcobalamin
to the receptor had an association constant of approximately 4.6×10^9
liter/mol and it was saturable and highly specific as competition by
other proteins was not observed. The receptor had higher affinity for the
cobalamin-transcobalamin complex (holo-TC)
than for transcobalamin (apo-TC). Basic amino
compounds known to interfere with tubular reabsorption of proteins did not
inhibit the binding. Studies on subcellular fractions supported the view
that the receptor was located on the brush border membrane of the kidney.
CC Cytology - Animal 02506
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Porphyrins and bile pigments 10065
Biophysics - General 10502
Biophysics - Molecular properties and macromolecules 10506
Biophysics - Membrane phenomena 10508
Anatomy and Histology - Microscopic and ultramicroscopic anatomy 11108
Metabolism - Minerals 13010
Metabolism - Proteins, peptides and amino acids 13012
Urinary system - Anatomy 15502
Urinary system - Physiology and biochemistry 15504
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell
Biology); Metabolism; Morphology; Urinary System (Chemical Coordination
and Homeostasis)
IT Miscellaneous Descriptors
TUBULAR RESORPTION SODIUM CHLORIDE CONCENTRATION BRUSH BORDER LOCALE
BINDING AFFINITY ASSOCIATION CONSTANT SUBCELLULAR FRACTION
ORGN Classifier
Suidae 85740
Super Taxa
Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Artiodactyls, Chordates, Mammals, Nonhuman Vertebrates,
Nonhuman Mammals, Vertebrates
RN 12774-24-2 (TRANSCOBALAMIN)
7647-14-5 (SODIUM CHLORIDE)

ANSWER 5 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1996:48186 BIOSIS

DN PREV199698620321

TI Use of monoclonal antibodies against transcobalamin II to
inhibit cellular vitamin B12 uptake.

AU McLean, G. R. [Reprint author]; Williams, M. J.; Quadros, E. V.;
Schrader, J. W.; Ziltener, H. J. α

CS Biomedical Res. Centre, Univ. British Columbia, Vancouver, BC, Canada

SO Blood, (1995) Vol. 86, No. 10 SUPPL. 1, pp. 126A.
Meeting Info.: 37th Annual Meeting of the American Society of Hematology.
Seattle, Washington, USA. December 1-5, 1995.
CODEN: BLOOAW. ISSN: 0006-4971.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)

LA English

ED Entered STN: 2 Feb 1996
Last Updated on STN: 3 Feb 1996

CC General biology - Symposia, transactions and proceedings 00520
Cytology - Animal 02506
Cytology - Human 02508
Biochemistry studies - Vitamins 10063
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Carbohydrates 10068
Metabolism - Water-soluble vitamins 13018
Neoplasms - Therapeutic agents and therapy 24008
Development and Embryology - Morphogenesis 25508
Immunology - Immunopathology, tissue immunology 34508

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Clinical
Endocrinology (Human Medicine, Medical Sciences); Development;
Metabolism; Oncology (Human Medicine, Medical Sciences)

IT Chemicals & Biochemicals
TRANSCOBALAMIN II; VITAMIN B12

IT Miscellaneous Descriptors
APO-TRANSCOBALAMIN; COBALAMIN BINDING
PROTEIN; HOLO-TRANSCOBALAMIN; MEETING ABSTRACT;
MEETING POSTER; PROLIFERATION

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
human
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
mouse
Taxa Notes
Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates

RN 12651-28-4 (TRANSCOBALAMIN II)
68-19-9 (VITAMIN B12)

ANSWER 4 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1996:278666 BIOSIS

DN PREV199699001022

TI Characterization of monoclonal antibodies to epitopes of human transcobalamin II.

AU Quadros, Edward V. [Reprint author]; Rothenberg, Sheldon P.; McLoughlin, Patricia

CS Dep. Med., Div. Hematol./Oncol., SUNY-Health Sci. Cent., Brooklyn, NY 11203, USA

SO Biochemical and Biophysical Research Communications, (1996) Vol. 222, No. 1, pp. 149-154.
CODEN: BBRCA9. ISSN: 0006-291X.

DT Article

LA English

ED Entered STN: 25 Jun 1996
Last Updated on STN: 15 Aug 1996

AB Cellular uptake of cobalamin (Cbl) is mediated by transcobalamin II (TCII), a Cbl binding protein in the plasma. The TCII-Cbl complex binds to a cell surface receptor and is internalized by endocytosis. We have generated monoclonal antibodies (mAbs) to human TCII that can be distinguished into three functional types on the basis of interaction with three different regions of the protein. Type 1: Receptor blocking. This mAb binds holo-TCII and inhibits the cellular uptake of Cbl. Type 2: Cbl blocking. This mAb binds apo-TCII at or near the Cbl binding domain and inhibits the formation of holo-TCII. Type 3: Precipitating. This mAb binds both holo-TCII and apo-TCII but does not interfere with Chi binding. Whereas type 1 and type 2 mAb, following incubation with TCII-(57Co)Cbl or apo-TCII, respectively, inhibit the uptake of radio-labeled Cbl by K562 cells, type 3 mAb has no such activity with either form of TCII. These properties of type 1 and type 2 mAb that inhibit the cellular uptake of Cbl, may serve to induce rapid Cbl deficiency and provide a model to study the effect of selective Cbl depletion on cell division and differentiation as well as on the pathways dependent on the two Cbl cofactors, methyl-Cbl and 5'-deoxyadenosyl-Cbl.

CC Cytology - Human 02508
Biochemistry studies - Vitamins 10063
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Carbohydrates 10068
Biophysics - Membrane phenomena 10508
Blood - Blood and lymph studies 15002
Pharmacology - General 22002
Immunology - General and methods 34502

IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cell Biology; Immune System (Chemical Coordination and Homeostasis); Membranes (Cell Biology); Pharmacology

IT Chemicals & Biochemicals
TRANSCOBALAMIN II; METHYL-COBALAMIN;
5'-DEOXYADENOSYL-COBALAMIN

IT Miscellaneous Descriptors
CELL DIFFERENTIATION; CELL DIVISION; DRUG DESIGN; HUMAN K562 CELL;
METHYL-COBALAMIN; TRANSCOBALAMIN II RECEPTOR
BLOCKER; 5'-DEOXYADENOSYL-COBALAMIN

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
Hominidae
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 12651-28-4 (TRANSCOBALAMIN II)
13422-55-4 (METHYL-COBALAMIN)

13870-90-1 (5'-DEOXYADENOSYL-COBALAMIN)

13870-90-1 (5'-DEOXYADENOSYL-COBALAMIN)

ANSWER 3 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1997:68368 BIOSIS

DN PREV199799367571

TI Antibodies to transcobalamin II block in vitro proliferation of leukemic cells.

AU McLean, Gary R.; Ouadros, Edward V.; Rothenberg, Sheldon P.; Morgan, A. Charles; Schrader, John W.; Ziltener, Hermann J. [Reprint author]

CS Biomed. Res. Cent., 2222 Health Science Mall, Univ. B.C., Vancouver, BC V6T 1Z3, Canada

SO Blood, (1997) Vol. 89, No. 1, pp. 235-242.

CODEN: BLOOAW. ISSN: 0006-4971.

DT Article

LA English

ED Entered STN: 11 Feb 1997

Last Updated on STN: 11 Feb 1997

AB The plasma protein transcobalamin II (TCII) binds and delivers cobalamin (Cbl; vitamin B12) to all cells, which internalize the TCII/Cbl complex by receptor-mediated endocytosis. Congenital deficiency of TCII results in intracellular Cbl deficiency, one effect of which is to disrupt DNA synthesis, leading to megaloblastic anemia. We report here an in vitro culture system in which cell growth is dependent on delivery of Cbl to cells by TCII. Recombinant human holo-TCII was shown to support in dose-dependent manner the growth of the human erythroleukemic cell line K562 and the murine lymphoma cell line BW5147. Free Cbl also supported cell growth; however, at 100- to 1,000-fold higher concentrations than those effective in the presence of apo-TCII. To determine if cellular depletion of Cbl could be achieved by interfering with interactions between TCII/Cbl and its cell-surface receptor, several monoclonal antibodies raised against human TCII were studied. Three antibodies, found to compete for the same binding site on TCII, proved to be effective inhibitors of TCII/Cbl-dependent cell growth. Our results suggest that monoclonal anti-TCII antibodies that block the function of this protein may prove useful in antitumor therapies.

CC Cytology - Animal 02506

Cytology - Human 02508

Biochemistry studies - Vitamins 10063

Biochemistry studies - Proteins, peptides and amino acids 10064

Blood - Blood, lymphatic and reticuloendothelial pathologies 15006

Blood - Lymphatic tissue and reticuloendothelial system 15008

Pharmacology - Blood and hematopoietic agents 22008

Neoplasms - Therapeutic agents and therapy 24008

Neoplasms - Blood and reticuloendothelial neoplasms 24010

IT Major Concepts

Blood and Lymphatics (Transport and Circulation); Cell Biology; Hematology (Human Medicine, Medical Sciences); Oncology (Human Medicine, Medical Sciences); Pharmacology

IT Chemicals & Biochemicals

TRANSCOBALAMIN II

IT Miscellaneous Descriptors

ANTINEOPLASTIC AGENT; BLOOD AND LYMPHATIC DISEASE; BLOOD AND LYMPHATICS; CELL BIOLOGY; HUMAN ERYTHROLEUKEMIC CELLS; IN VITRO PROLIFERATION BLOCKADE; LEUKEMIA; LEUKEMIC CELLS; MONOCLONAL ANTI-TRANSCOBALAMIN II ANTIBODIES; MOUSE LYMPHOMA CELLS; NEOPLASTIC DISEASE; PHARMACOLOGY; TRANSCOBALAMIN II; TUMOR BIOLOGY

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

K562: cell line

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier

Muridae 86375

ANSWER 3 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1997:68368 BIOSIS

DN PREV199799367571

TI Antibodies to transcobalamin II block in vitro proliferation of leukemic cells.

AU McLean, Gary R.; Ouadros, Edward V.; Rothenberg, Sheldon P.; Morgan, A. Charles; Schrader, John W.; Ziltener, Hermann J. [Reprint author]

CS Biomed. Res. Cent., 2222 Health Science Mall, Univ. B.C., Vancouver, BC V6T 1Z3, Canada

SO Blood, (1997) Vol. 89, No. 1, pp. 235-242.

CODEN: BLOOAW. ISSN: 0006-4971.

DT Article

LA English

ED Entered STN: 11 Feb 1997

Last Updated on STN: 11 Feb 1997

AB The plasma protein transcobalamin II (TCII) binds and delivers cobalamin (Cbl; vitamin B12) to all cells, which internalize the TCII/Cbl complex by receptor-mediated endocytosis. Congenital deficiency of TCII results in intracellular Cbl deficiency, one effect of which is to disrupt DNA synthesis, leading to megaloblastic anemia. We report here an in vitro culture system in which cell growth is dependent on delivery of Cbl to cells by TCII. Recombinant human holo-TCII was shown to support in dose-dependent manner the growth of the human erythroleukemic cell line K562 and the murine lymphoma cell line BW5147. Free Cbl also supported cell growth; however, at 100- to 1,000-fold higher concentrations than those effective in the presence of apo-TCII. To determine if cellular depletion of Cbl could be achieved by interfering with interactions between TCII/Cbl and its cell-surface receptor, several monoclonal antibodies raised against human TCII were studied. Three antibodies, found to compete for the same binding site on TCII, proved to be effective inhibitors of TCII/Cbl-dependent cell growth. Our results suggest that monoclonal anti-TCII antibodies that block the function of this protein may prove useful in antitumor therapies.

CC Cytology - Animal 02506

Cytology - Human 02508

Biochemistry studies - Vitamins 10063

Biochemistry studies - Proteins, peptides and amino acids 10064

Blood - Blood, lymphatic and reticuloendothelial pathologies 15006

Blood - Lymphatic tissue and reticuloendothelial system 15008

Pharmacology - Blood and hematopoietic agents 22008

Neoplasms - Therapeutic agents and therapy 24008

Neoplasms - Blood and reticuloendothelial neoplasms 24010

IT Major Concepts

Blood and Lymphatics (Transport and Circulation); Cell Biology;

Hematology (Human Medicine, Medical Sciences); Oncology (Human

Medicine, Medical Sciences); Pharmacology

IT Chemicals & Biochemicals

TRANSCOBALAMIN II

IT Miscellaneous Descriptors

ANTINEOPLASTIC AGENT; BLOOD AND LYMPHATIC DISEASE; BLOOD AND LYMPHATICS; CELL BIOLOGY; HUMAN ERYTHROLEUKEMIC CELLS; IN VITRO PROLIFERATION BLOCKADE; LEUKEMIA; LEUKEMIC CELLS; MONOCLONAL ANTI-TRANSCOBALAMIN II ANTIBODIES; MOUSE LYMPHOMA CELLS; NEOPLASTIC DISEASE; PHARMACOLOGY; TRANSCOBALAMIN II; TUMOR BIOLOGY

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

K562: cell line

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier

Muridae 86375

Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

BW5147: cell line

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates

RN 12651-28-4 (TRANSCOBALAMIN II)

Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

BW5147: cell line

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates

RN 12651-28-4 (TRANSCOBALAMIN II)